

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1 (Previously Amended) A method of producing a stabilized amorphous silicon film, comprising the steps of:

- (a) providing an amorphous silicon film deposited on to a substrate, the film having an exposed surface;
- (b) illuminating the film with an essentially blue or ultraviolet light to form a light damaged region and a region resistant to metastable degradation; and
- (c) etching the light damaged region to expose a portion of the region resistant to metastable degradation.

Claim 2 (Previously Amended) The method of claim 1 further comprising using the amorphous silicon film in an electronic, optoelectronic, or photovoltaic device.

Claim 3 (Previously Amended) The method of claim 1 wherein the light damaged region extends 700-10,000Å below the film surface.

Claim 4 (Previously Amended) The method of claim 1 wherein etching comprises using a liquid etchant to remove 500 – 10,000Å of the silicon film.

Claim 5 (Previously Amended) The method of claim 1 wherein etching comprises using a reactive hydrogen in a plasma or chemical vapor deposition reactor to remove 500-10,000Å of the silicon film.

Claim 6 (Previously Amended) The method of claim 1 further comprising repeating the steps of illuminating and etching for a plurality of cycles.

Claim 7 (Previously Cancelled)

Claim 8 (Cancelled)

Claim 9 (Cancelled)

Claim 10 (Cancelled)

Claim 11 (Previously Amended) The method of claim 1 wherein providing, illuminating, and etching are performed as steps in an amorphous silicon film deposition process.

Claim 12 (Previously Amended) The method of claim 3 wherein providing, illuminating,

and etching are performed as steps in an amorphous silicon film deposition process.

Claim 13 (Previously Amended) The method of claim 6 wherein providing, illuminating, and etching are performed as steps in an amorphous silicon film deposition process.

Claim 14 (Previously Amended) The method of claim 1 wherein the amorphous silicon further comprises an alloy selected from the group consisting of a-SiGe:H and a-SiC:H.

Claim 15 (Previously Amended) The method of claim 3 wherein the amorphous silicon further comprises an alloy selected from the group consisting of a-SiGe:H and a-SiC:H.

Claim 16 (Previously Amended) The method of claim 6 wherein the amorphous silicon further comprises an alloy selected from the group consisting of a-SiGe:H and a-SiC:H.

Claim 17 (Previously Amended) The method of claim 9 wherein the amorphous silicon further comprises an alloy selected from the group consisting of a-SiGe:H and a-SiC:H.

Claim 18 (Previously Added) The method of claim 1 wherein etching comprises using a liquid etchant to remove about 700Å of the silicon film.

Claim 19 (Previously Added) The method of claim 1 wherein etching comprises using a reactive hydrogen in a plasma or chemical vapor deposition reactor to remove about 700Å of the silicon film.